STATE OF MISSOURI Jeremiah W. (Jay) Nixon, Governor • Kip A. Stetzler, Acting Director
DEPARTMENT OF NATURAL RESOURCES
www.dnr.mo.gov

November 18, 2010

Ms. Jamie Bernard-Drakey
U.S. EPA, Region VII
901 North 5th Street
Kansas City, KS 66101

Dear Ms. Bernard-Drakey:

The Missouri Department of Natural Resources (MDNR), Hazardous Waste Program's (HWP) Site Assessment Unit (SAU) has completed the following reports under the Superfund (SPF) consolidated agreement. As per the grant requirements, enclosed are hard and electronic copies of each report.

Site Name	Report Type
Lake Timberline Development	Site Inspection
Green Acres Farm Supply	Site Reassessment

A brief summary of the findings for each site is provided below:

LAKE TIMBERLINE DEVELOPMENT

The Lake Timberline Development site is a gated and privately owned community approximately 1500 acres in size, consisting of 500-600 residents and 13 lakes, located at 2305 Timberline Drive approximately four miles north of Bonne Terre, Missouri. The site is contaminated with lead in residential yards, the recreational lakes, and the creek running through the property due to historic lead mining, transportation of lead bearing materials, and the use of contaminated fill in residential yards. The site is part of the Big River Mine Tailings/St. Joe Minerals Corp. Operable Unit 1 National Priorities List (NPL) site (MOD981126899).

This Site Inspection investigation primarily assessed the surface water pathway to determine whether citizens are at risk from exposure to heavy metals that may be present in the Lake Timberline lakes in which they swim and ingest fish caught in the lakes.

On July 19-20, 2010, a total of 13 surface water, 16 sediment, 6 beach sand and 9 fish fillet tissue samples were collected. Sampling results document lead levels elevated above background in the water of five lakes and in the sediment of all lakes. All sediment samples, both deep grabs from the middle of the lakes and composite samples from the banks, contain lead in excess of the USGS Sediment Quality Guidelines and the U.S. Environmental Protection Agency (EPA) Ecotox Threshold. Surface water and sediment samples from Bee Run Creek, both up and downstream of Lake Timberline Development site, document a release of lead. The primary source of lead in the Bee Run Creek is the migration of material from the Mississippi River &Bonne Terre Railway, which runs adjacent to the creek. Sampling of the Big River in the Big Watershed has documented widespread lead contamination, due to extensive historic lead mining in Washington, St. Francois and Jefferson Counties.

Although the vast majority of sediment samples from the Lake Timberline lakes that were sampled contained lead and zinc levels in excess of sediment quality guidelines, the fish tissue samples collected from the Bee Run, Primrose and Timberline Lakes do not indicate that lead or zinc has bioaccumulated in the fish at levels harmful to humans. The Missouri Department of Health and Senior Services (DHSS) does not recommend any fish advisory for the lakes in the Lake Timberline Development with respect to lead.

Beach sand levels at Timberline, Primrose and Silver Lakes were all below the residential screening standard for lead of 400 parts per million (ppm). The laboratory result for the sample from Wahoo Lake beach did contain lead at 497 ppm. Although, the EPA screening standard was calculated using assumptions for residential yards and may not necessarily reflect the exposures occurring at the Wahoo Lake Beach, it is recommend that a new load of clean sand be hauled into Wahoo Beach.

GREEN ACRES FARM SUPPLY

The Green Acres Farm Supply Site is the location of a former agricultural chemical retailer in Centralia, Boone County, Missouri. It is now the location of a concrete business, DBA Central Missouri Concrete Pumping Company, and a machinery business, Spirit Machinery.

Green Acres operated as an agricultural chemical service and supply center at this location from 1959 to March of 2000. Green Acres applied liquid mixed fertilizers and herbicides to row-crops by means of tank trucks equipped with sprayer booms. In 1985, the Department received a complaint regarding the improper disposal of pesticide/herbicide waste at the Site.

In September of 1985, a Preliminary Assessment (PA) was completed by the Department and the Site was entered onto CERCLIS. A Site Investigation (SI) was initiated by the Department in 1985. Sampling was conducted in June 1986. This sampling revealed the Site soils in the location of the former lagoon and in an on-Site drainage ditch, and nearby surface water in the intermittent stream was contaminated with a number of pesticides. Alachlor (Lasso), Aldrin, Atrazine, endosulfan, heptachlor, heptachlor epoxide, beta-hexachlor-cyclohexane, and gamma-hexachloro-cyclohexane (Lindane) were found in the surface water on-Site and downstream. At the time of the investigation, herbicides used at Green Acres included Treflan, Lasso, & Atrazine, 2.4-D, Herban, Banvel, Planavin, and fertilizer components of phosphate, potash, and nitrogen.

At that time, the principal environmental concerns were the migration of contaminants off Site through surface runoff and vegetative damage caused by herbicides. Potential groundwater contamination was also a concern. The SI concluded that the soil and some surface water were contaminated with herbicides and pesticides.

In May 1998, Green Acres Farm Supply signed a Letter of Agreement with the Department's BVCP for State oversight of Site characterization and remediation. Green Acres Farm Supply withdrew from the BVCP in March 2000, prior to developing a Remedial Action Plan.

The Site Reassessment (SR) was initiated in 2008, due to the Department receiving a request from the EPA to see if the herbicide/pesticide contamination found in the earlier investigation was still present in the soil and surface water at levels that would require a cleanup.

The SR investigation did not detect levels of pesticides or herbicides in the surface and sediment water samples. As well, none were found in the former lagoon area at the surface or at depth or in the on-Site drainage ditch area. This is most likely due to some form of degradation (microbial, chemical, or photo degradation) of the pesticide and herbicides since the 1986 sampling or contaminants having washed away over time. DDT, DDE, and dieldrin were detected in one of the surface samples in the gravel driveway but below health based benchmarks. Aldrin and dieldrin were detected in the other surface driveway sample at levels slightly above MRBCA non-residential levels.

The groundwater pathway was evaluated as part of the SR investigation through past private well sampling and from information provided in the Site Geohydrologic Summary completed by the Division of Geology & Land Survey. The city wells are located over one-half to one mile from the Site, and the aquifer in the area would not be expected to be significantly impacted by potential releases from the Site. The DHSS sampled private wells in the vicinity on numerous occasions. None of the past sampling has indicated any pesticides or herbicides contamination.

Based on the information collected during the SR investigation, the Green Acres Farm Supply Site does not appear to have any pesticide or herbicide contamination in the soil, surface water, or sediment that would require any sort of cleanup action.

Based on current Site conditions and available information, the Green Acres Farm Supply Site warrants no further investigation under CERCLA authority at this time.

If you have any questions or concerns, please do not hesitate to contact me by mail at the Department of Natural Resources, Hazardous Waste Program, P.O. Box 176, Jefferson City, MO 65102-0176, by phone at (573) 751-1087 or 1-800- 361-4827, or by e-mail at julieann.warren@dnr.mo.gov.

Sincerely,

HAZARDOUS WASTE PROGRAM

Julieann Warren

Julieann Warren, Chief
Site Assessment Unit
Superfund Section

JW:pcl

Enclosures